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CALENDAR,
CIVIL AND ECCLESIASTICAL.

BY

A LAYMAN OF THE GERMAN REFORMED CHURCH.

FROM THE APRIL NUMBER OF THE MERCERSBURG REVIEW

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B.C. Steiner
16 Ja '04

W. A. STEINER
PRINTING CO. LTD.

THE CALENDAR.

AMONG the strange fables which compose the structure of Grecian Mythology, we find one that refers to the god Chronos, who presided over time; an old man weighed down with years and accumulated infirmities, whose long, grey locks are moved by the passing wind, gently or rapidly as this may come in the form of the light zephyr, or the rude and stormy blast of old Boreas. In his right hand he holds the relentless scythe, with which all are cut down at the appointed time,—all, whether rich or poor, old or young; those whose years have been filled with good works and bright deeds, or those whose manly breasts are but prepared for noble encounters. The serpent biting its tail, appears by his side, the ancient emblem of time, or rather of the year. In his left hand a child is held, as if to be devoured by the god; for since he “brings an end to all things which have had a beginning, he may be said to devour his own offspring.” A similar representation is given in Roman Mythology of the god Saturn, who was the father of the Olympian Jove, and one of the descendants of primeval Chaos. These representations satisfy us, that man does not require any higher illumination, than that which flows from the dim lamp of Nature, to make him conscious of the passage of time, or, that this is marked by the destruction of bright and shining members of his own race,—the darling children of an hour, petted and nursed by the delicate care of time and then subjected to the destroyer’s power. The Roman poet in his Ode to Postumus, recognizes this peculiarity with much pathos, when he exclaims,*

* Eheu fugaces, Postume, Postume,
Labuntur anni: nec pietas moram
Rugis et instanti senectae
Afferet indomita que morti.
* * * * *
Linquenda tellus, et domus, et placens
Uxor: neque harum quas colis arborum,
Te, praeter invisas cupressos,
Ulla brevem dominum sequeter.

Hor. Carm. Lib. II, XIV.

“ How swiftly glide our flying years !
 Alas ! nor piety, nor tears
 Can stop the fleeting day ;
 Deep-furrowed wrinkles, posting age,
 And death’s unconquerable rage,
 Are strangers to delay.
 * * * * * *

Your pleasing consort must be left
 And you of villas, lands bereft,
 Must to the shades descend ;
 The cypress only, hated tree,
 Of all thy much-loved groves shall thee—
 Its short-lived lord—attend ! ”

But the flight of time, when viewed, under the advantages of a brighter light than that which illuminated the path of Horace, becomes a subject of the greatest importance to the Christian mind. It is not only the loss of time that it regrets, the nearing of the dark and gloomy tomb, the dismal boughs of the cypress or the funereal trappings which adorn the hearse on its saddest errand. These are all repulsive to the light and joyous heart, but they may be surrounded with such a halo of glory, that man “ shall go to his long resting place without a tear.” It is not the unknown Future that appalls. It is the misspent Past that makes him cling to life with the fond hope that some good deed may blot out the record of past omissions and commissions, and may make him worthier of a blessed reward in the Future. *This* is the Christian’s cause of regret, and, notwithstanding it is based upon purer and higher and nobler reasons than that of the pampered child of luxury, yet he must finally admit that of himself he can do nothing which will repair the misdeeds of the Past, but must rely on a higher power for assistance to labor aright during life. His agonizing soul exclaims in the words of the Christian Spanish poet :

“ O world ! so few the years we live,
 Would that the life which thou dost give
 Were life indeed !
 Alas ! thy sorrows fall so fast,
 Our happiest hour is when at last
 The soul is freed.”

These considerations point out one class of events as marking periods in the great Calendar of Time,—the deaths of those who have lived and struggled in the world. Wherever death comes to a human being it impresses an indelible mark upon the breast of some one who has learned to honor or to love the deceased. The event is the central point around which will revolve the memories of the Past with such a centripetal attraction that all the alluring charms of the Present will not succeed in destroying the relation. Who has not some such periods, marked with indelible impressions and draped with sombre black, in the Calendar of his own life? To these, he refers all the incidents of that life,—speaks of events that occurred so long “before he or she died,” and thus binds them to his memory by *friendly* cords, even though these be entwined with cypress. We say that every human being has such periods in the arrangement of his private Calendar.

The patriot, on the bed of death, has a nation watching, with breathless anxiety, every little symptom of his disease; hope contends with despair; glad expectation with sorrow; but the moment arrives and all is over. A nation weeps and mournful dirges are borne along by the winds as they sweep over the plain. A great leader has fallen and who shall take his place? Again, the Christian father or mother is sinking under the exhausting effects of disease, and the keenest anguish fills the breasts of their children. The family circle is to be broken ;—the central jewel, around which the less brilliant gems had been clustered, is to be destroyed ;—that which had been the source of happiness is to be removed. When death comes, know you not the deep mark he will make in the record of each one’s life, by the sorrow that he throws so overwhelmingly over the dazzling day-dreams of a happy future? And there lives no man so wretched or miserable, so wicked and lawless, but the event of his death will form a mark in the Calendar of Time precious to some heart who, it may be, loved not wisely but too well.

But if sad marks are thus made on the Calendar, bright,

happy ones appear also. The birth of a child constitutes a bright epoch, which proud parents and loving relatives refer to with great satisfaction; and thus that Calendar, which marks the progress of Time for each individual, has periods both of sorrow and joy, of deep anguish and high exultation.

On the present occasion, however, we wish to direct attention to those divisions of the Calendar, that the necessities of civil life have formed, with the assistance of Astronomical Science, and also those periods, with the laws for their determination, which religion has set apart for holy services. We trust the subject may not seem too commonplace for close and careful examination. It often happens, that a common subject may be very little understood, because our attention has never been directed to it. The explanation of the Almanac, says the eminent Astronomer, Arago, involves the most delicate and intricate points of science and general learning. Let us then endeavor to seize the main facts connected with its formation, and thus be enabled to understand the divisions of time, by which events in the civil history of man are recollect ed and accurately fixed. The words Almanac and Calendar are used indifferently in English to represent collections of tables, containing subdivisions of time considered with reference to artificial or natural relations. The first is derived from an Arabic word, signifying *the moon*; and its derivation shows us, that the moon gave the peculiar laws by which the divisions of time were determined among the Eastern nations. Calendar is derived from the Latin word *calendae*, which were the first days of each month in the year. Whatever may have been the other subdivisions of time adopted by mankind, that into days and years was fixed, by the movements of the earth in the heavens, beyond all danger of conventional alterations.

By a day, we mean, ordinarily, the time occupied by the Sun in an apparent revolution through the firmament; in fact it is the amount of time consumed by the earth in making one entire revolution on its axis. This period is

divided into two portions, one during which a part of the earth receives its light directly from the Sun's rays, and a second when the only light, sent down, is from the moon or the stars. The former is known also as day and the latter as night. This division has existed from the first dawn of creation, when Omnipotent Power spake the word and "divided the light from darkness," calling the light Day, and the darkness Night. The relation of length, however, between these two periods is not fixed for any particular spot on the earth's surface, and between any two positions there will always be great difference. At the north pole a continuous day of six months duration is followed by darkness of an equal length of time, and those who are familiar with the travels of our modern Arctic discoverers, will recollect the descriptions of those long periods of light and darkness, and how they affect the minds of men who have been accustomed to the night and day of temperate or even tropic latitudes.

The day, in the proper sense of the word, is controlled, as we have said, by the revolution of the earth on its axis, and has been divided from a very early period of history, into twenty-four parts. Sometimes these were divided into two periods,—one, that of the light, which had its twelve equal divisions, and that of darkness, which was considered as composed also of twelve equal parts. With such an arrangement, the hours of the night, during winter, would be longer than those of the day, while during the months of summer, an opposite relation would be established between the two, and no equality of hours could exist on any other days of the year than the 21st of March and the 23rd of September, when the periods of day and night are equal. The more common division of the day, however, is into equal portions, each of which consists of twelve hours.

Among some nations, as is the custom now of Astronomers, the day was not divided into two periods, but the hours were reckoned from one up to twenty-four. Astronomers follow the custom of Ptolemy, and consider noon as the commencement of the astronomical day, which

of course then extends to noon of the next day. The beginning of such a day is twelve hours after that of the civil day, which takes place at midnight, and its termination is also twelve hours later than the civil day. Almost all modern nations regulate their civil day from midnight, and they employ two initial points for designating time, the beginning of the day and the middle, or noon, when the sun is on the meridian; but the relative position of any hour is regulated by its relation to the middle point, being called either the hour of the morning or the evening, as it is before or after mid-day, and the fact is indicated, in writing, by the abbreviations A. M., or P. M.

The Jews, as the pages of both Old and New Testament clearly show, the Chinese, the Italians and the ancient Athenians began their day at the setting of the sun. One can well understand how a simple people, devoted to agricultural pursuits, not given to the study and cultivation of science, would naturally select as the commencement of their civil day, either the rising or setting of that bright orb, whose beams were to give light to their path and to infuse genial warmth throughout the animal and vegetable kingdoms. These two events in the history of the day were regarded as the great facts of the natural world, to which both the activity and living energy of all that possessed life were due, since the rising of the sun was the great stimulus to action and, when aweary of continual exertion, the darkness, its setting produced, allowed of rest and refreshing repose to the animal world. There is thus a reason arising from man's relations to nature for the adoption of this notation. It also explains the reason for the form of expression which Moses employs to denote the first days of Creation,—“the evening and the morning were the first day.” A writer of the present day would say, “the morning and the evening,” instead of employing the old form which sprang from the mode of reckoning time in use with the Jews.

The Italians, according to Arago,* have continued this

* *Astronomie Populaire*, I, 268.

defective method down to the present time, counting the hours regularly from one to twenty-four, and giving as their reason for it, that travellers are kept in this way always reminded of how many hours they may employ before darkness shall surround them. The sun always sets at 24 o'clock, according to this calculation, and if the watch points 22 o'clock, we know that two hours will yet intervene before the close of day. But the advantages of any such system are really nothing as compared with the inconvenience attendant upon constant daily alteration of time pieces, and the impossibility of establishing any thing like a methodical arrangement of daily business. The arguments in favor of its retention must be based on blind love of antiquity, and not on any advantages that are inherent to it.

The same objections obtain, when we examine the method of the Babylonians, Syrians, Persians and Modern Greeks, who take the rising of the sun as the initial point of the day. This period, as well as the setting of the sun, differs daily, and hence no clock regulated by either of these events on one day would be strictly correct the subsequent day. These methods spring from an age when science was not known, but wherever it sheds its benignant rays in the present day, we find that they are abolished, unless deep-rooted affection or irrational prejudice should combine to prevent such an effect.

Whatever period may be adopted for the commencement of the civil day, it must be determined by the aid of the heavenly bodies, and thus, by a bond of necessary union we are bound to the planets and stars that shine in the immensity of space,—bound by such a harmonious relation that all our daily duties are regulated by them, while their inhabitants are in similar manner indebted to our planet and its kindred, for the arrangement and control of their daily avocations. And though our most ingeniously contrived and artistically finished Chronometers may render our divisions of the time, which intervenes between the fixed periods given by astronomical observations, some-

what accurate and reliable, yet we are obliged continually to alter them by the great regulators which the Eternal has established in the skies. As our own American orator* so beautifully expressed the idea in his oration on Astronomy—"for all the kindreds and tribes and tongues of men,—each upon their own meridian—the eternal sun strikes twelve at noon, and the glorious constellations, far up in the everlasting belfries of the skies, chime twelve at midnight; twelve for the pale student over his flickering lamp, twelve amid the flaming wonders of Orion's belt, if he crosses the meridian at that fated hour;—twelve by the weary couch of languishing humanity;—twelve in the star-paved courts of the Empyrean;—twelve for the heaving tides of the ocean; twelve for the weary arm of labor; twelve for the toiling brain; twelve for the watching, waking, broken heart; twelve for the meteor which blazes for a moment and expires; twelve for the comet whose period is measured by centuries; twelve for every substantial, for every imaginary thing, which exists in the sense, the intellect, or the fancy, and which the speech or thought of man, at the given meridian, refers to the lapse of time."

Astronomers take into consideration two kinds of days, the *sidereal*, which marks the interval of time between two successive passages of any star over the meridian, and the solar, which we have just considered, the interval between "two consecutive passages of the Sun through the meridian." The latter is the longer of the two, and constitutes that which we have called the civil day. But while this period of twenty-four hours is being determined by the revolution of the Earth upon its axis,—or the apparent revolution of the Sun about the Earth, the latter is undergoing itself a change of position in space which alters, with each instant of time, its relation to the Sun. The Earth revolves around the Sun, and this revolution requires a much longer time than that required for the revolution on its axis, giving the appearance of a constant change of

* Everett's Discourse on the Uses of Astronomy.

position in the sun, and occupying an amount of time which is called a *year*. The year then means the number of days that are required by the sun in its apparent movements, before it returns to the same position on the ecliptic, whether this position be at the summer or winter solstices, the autumnal or spring equinoxes. It is not composed of an even number of solar days, but consists of three hundred and sixty-five days and a fraction under six hours. The difficulties which this fraction has created for astronomers and chronologists in past history, as well as the plans proposed to avoid further trouble about it, will be considered directly.

The year is divided into Seasons, which divisions, although not employed as legal, yet are in use with all mankind. These are also determined by the relation of the Earth to the Sun, so that the Record in the first chapter of Genesis concerning the fourth day of Creation, can be literally interpreted, and the lights which were then established in the firmament have been not only "for signs," but also "for *seasons*, and for days, and years." These seasons are determined by the sun's apparent position on a great circle called the ecliptic, which circle is inclined at an angle of $23^{\circ} 27' 30''$ to the plane of the Equator. The sun in making its apparent circuit on the ecliptic will twice in the year cross the Equator, once in passing from south to north, and the second time on its return; these constitute the *Equinoxes*. The period of time which marks its extreme northern or southern position is called the *Solstice*. The Equinoxes take place on the 21st of March and the 23rd of September, and are known as spring and autumnal.

The solstices happen on the 21st of June and the 21st of December and are called summer and winter solstices;—these are the periods when in our latitudes we should be suffering most from intense heat or cold, but a number of modifying causes generally delays the periods of greatest heat and cold for some days beyond the Solstices. In Paris the fifteenth of July is about the period of maximum heat, and the fourteenth of January that of maximum cold.

The four seasons are thus determined by the Solstices and Equinoxes, from the 21st of March to June 21st, we have the season of *Spring*, from 21st of June to September 23rd, *Summer*, from the latter to 21st December, *Autumn*, and from that period to March 21st, *Winter*. These are the seasons, as the movements of the sun determine them for the northern hemisphere. They are the very opposite in the southern portion of our globe, the spring of the north corresponding to the autumn of the south, and the summer of the south to the winter of the north.

But we are admonished by the want of space, not to linger over this part of our subject. It would be profitable to examine more closely the nature of the effects which the Sun produces during the four seasons of the year,—to see how the scenes of nature are changed as though by magic power,— to watch the gradual disappearance of snow and ice at the termination of winter,— the gentle metamorphosis of rough and craggy ice-bergs into streams that glide down the hillside and make glad the verdure of the plain, — to pluck the floral beauties which cover the meadow,— to view, with thankful heart to the All-wise and Omnipotent God, the fields with their rich return for honest labor as the evening winds may blow across the summits of the waving grain,— or to join in the exultant shout of thankfulness that the devout heart pours forth in the song of Harvest-home. The seasons are so many periods for attracting man's attention to the wonders of Creation and the greatness of the Creator, that they form an unending theme for the philosopher and the poet. The harmony that exists throughout all portions of creation is here shown in its most wonderful form. Nothing is discordant. The Master's hand has combined all in the wondrous notes which are poured forth, by his creation, as tribute to the Creator's power. The seasons follow as regular developments of each other.

The childhood of Spring, bright and gleesome, is but the bud which will develop into the glorious maturity of Summer, destined also in time to become the matronly autumn,

and to totter, in the decrepitude and cheerlessness of old age, as chilling winter to the tomb. But the end is not yet,—no ! the regulations of Omnipotence have assigned to the seasons the duty of continually rehearsing their parts so long as the earth is subject to the laws of time, and thus while the earth is bearing fruit to man, is supplying his wants and providing for his comforts, it is ever preaching to him that all things are bound to decay, and that the end of natural life is inevitable death.

We have now to consider as the next division of time, one which, though enforced by civil authority, yet has its origin not in national causes, but in the religious feelings of man. The week indicates “a regular succession of days of labor and rest.” It is a division of time not found among all nations, but has existed from the earliest periods among the Chinese, Jews, Egyptians, Chaldeans and Arabians. We shall see on examining the etymology of the English names of the days of the week, as well as those employed to designate the latter by the French, that they are associated in some very intimate way with the names of the Grecian and Roman deities, or with those of the Northmen ;—the English being derived from Saxon and the French from the Classic mythology. Sunday is the day of the Sun ; Monday that of the Moon ; Tuesday that of Tuisco, a deity corresponding to Mars ; Wednesday that of Woden or Odin—the Alfadur or All-father, who regulated the seasons by the creation of the sun and moon, and along with Vili and Ve—the other two gods, who were formed in the beginning,—created man, Odin granting him life and soul, Vili reason and motion, and Ve the senses and speech ; Thursday is the day of Thor—the god of thunder ; Friday that of Frigga the wife of Odin ; and Saturday the day of Saturn. We observe then of the seven days that their names are the same with those of the seven planets known to the ancients, viz : the Sun, the Moon, Mars, Mercury, Jupiter, Venus and Saturn. The etymology of the names justifies the conclusion that they were given for astronomical reasons, and thus the week contains “traces of some an-

cient astronomical system," which is not clearly understood at the present day. Various explanations have been given of the peculiar nature of this ancient astronomy, but none seem satisfactory. Arago advances the idea also that special virtues were attributed to the number seven by the ancients, and that "no one would have dared in Egypt, Greece or Rome to announce the existence of more than seven planets, as it would have been an infringement on the prerogatives of the number seven which would have entitled him to the maledictions of religion, and the punishment would have been death." The *first* day of the week is necessarily to be determined by ancient observances. The Jews, who give us the fullest records of the early establishment of the division of time, celebrated, in accordance with the fourth commandment delivered to Moses on Mount Sinai, that day as peculiarly sacred on which God "*rested*," after the works of creation had been accomplished, and especially blessed and sanctified. This is called the seventh day in the second chapter of Genesis, and the Sabbath day in the twentieth chapter of Exodus, and is still celebrated by the Jews, as it has always been, on Saturday. From this we observe the right that Sunday has to be called the first day of the week.

The division of the week has never been rejected by any nation that has once adopted it, with a single exception—that of France. In 1793, when the misnamed Republican party held the power over that fair land, Infidelity had become so widely diffused that the traces even of religious customs could not be retained. A general destruction, of all that savored of an acknowledgment of religion or its rites, was effected amid bacchanalian orgies and satanic revelry. The week with its one day, nominally at least, devoted to the service of the great Ruler of the earth, could not be permitted to remain. The very name of that day—Dimanche—a corruption of dies Dominica, the Lord's Day, would be a continual rebuke to the vice and crime of the government. Hence, the week must be abolished, and in its stead a period of ten days, called a *decade*, established.

For a period of thirteen years this arrangement was carried out, and the outrage upon the express command of the great Jehovah perpetrated by a government steeped in the filthiest vices and the grossest profanation of religion and its laws. But "man proposes and God disposes,"—the *decade* of the godless man of science—of the blaspheming infidel, has been rejected from the records of history; and the week with its regular days devoted to labor and toil, and its one day consecrated to the service of God, has again been restored, even in France, as a regular division of time.

The week was due to religious authority; by this it was established, and hence the necessity of its preservation, and its importance, as a division of time, is as great as though it had been regularly derived from astronomical laws. Days and years are produced by the phenomena which these laws exhibit,—they follow each other with unfaltering regularity, and form an unbroken series extending from the primal creative fiat—let there be light—down to our own time. Each one has first existed as a possibility in the future, then as an actuality in the present, abounding in its human sorrows and human joys, and finally has been reckoned among the things of the past—adding one to the number of the spectral column whose grim ranks constitute the skeleton of history. The week, however, has been appointed by God himself, not as the effect of any preordained laws, or as a consequence of their operations, but by special and direct command. Hence, it claims our special veneration,—our due acknowledgment. Violate we may the great law of nature that "day is the time for work," and night that of rest, and the consequences will merely be an exhaustion of vital energies, and a complete undermining of the constitution. We may disrespect the year, with its sequence of seasons, may sow the grain in summer, or in the midst of winter, may clothe ourselves in the thin apparel of July and endeavor to breast the storms of December, and the consequences will only be bodily want and suffering. But if we violate the week, a higher punish-

ment awaits us. We have violated that which was solemnly established amid the most impressive manifestations of Omnipotent power, and have boldly claimed the right to use that which He declared was "the Sabbath of the Lord thy God." The punishment for this is greater and more enduring than that for the violation of the day and the year. In the latter case, the consequences are confined to time,—in the former, they extend through the boundless limits of eternity—the immense ocean in which time floats like a small bubble of foam, sparkling for a while in the colors that its own walls have produced by the decomposition of the pure light that has visited them from the Eternal Sun, and then swallowed up in the great waves without a trace left behind.

Months were doubtless first adopted as a matter of convenience. The memory would find it very inconvenient to recollect particular circumstances, if the three divisions we have thus far considered, were the only means of expressing intervals of time. It was desirable that the weeks should be grouped together and a name be given to such groups. In addition to this, however, we have some reason to believe that they were originally constructed in accordance with the movements of the moon, and that the period of time required for *its* changes constituted a month. This idea is sustained by the etymology of our word month, which is derived from the Saxon *monath*, and it from *mona*, the moon. In like manner the words employed in other languages for month are derived from the word used to indicate the moon. The time required for a complete revolution of the moon from one point in the heavens to the same point again, or that consumed between any two full moons, or new moons, constitutes a lunar month. This forms a period of about twenty-nine and a half days. In common parlance four weeks are considered as making a lunar month, so that the year, if this were true, would consist of thirteen lunar months.

The revolution of the moon soon ceased to regulate the months of the year. A division into lunar months might

have been found inconvenient, and it certainly must have been as unmanageable as the Italian method of reckoning time from sunset. Had the moon performed its revolution in an even number of days, there would have been no difficulty about it, but as there was a fractional portion of a day in the time employed, the lunar period was unsuited for civil purposes.

The Egyptians adopted a plan for dividing the year, which was evidently based upon the idea involved in the lunar periods. The month consisted of thirty days. Twelve months formed the year, but there was always added five *complementary* days to the last month, before the reckoning began with the New Year. This would give three hundred and sixty-five days to the year. The Egyptians called the months Thoth, Paophi, Athyr, Choéac, Tybi, Méchir, Phaménoth, Pharmouti, Pachon, Payni, Epiphi, Mésori. The complementary days are called Nisi, for the common year, and Kebus for the intercalary by the modern Copths. A system, very similar to this Egyptian system, was introduced into the French Republican Calendar of 1793,—that is the division of the year into twelve months of thirty days, with five or six complementary days, which were called, in consequence of their Revolutionary origin, *sans-cultoides*.

The Greeks divided the year into twelve months, which were alternately of thirty and twenty-nine days, and the deficiency was made up by an intercalary month. Their months were divided into three decades, and the days these contained were numbered from one up to ten. The months always began with the end of one moon and the beginning of the other. There was, however, no general system adopted throughout Greece, and different States employed months of different length.

To the Roman system of dividing the year our attention is particularly invited, since the names of our months have mostly been derived from theirs. The Roman Calendar first consisted of ten months, and the year began with what is our third month. This was called Mars, after the god of

war, from whom Romulus was asserted to have descended. The second month received the name of April from the verb *aperire*, to open or unfold, as the earth was then unlocked from the severity of winter, and, softened by the warming rays of the sun and melting showers, the buds began to appear and prepare the way for vernal flowers. The third was dedicated to Maia, the daughter of Atlas and Pleione, who was the mother of Mercury, and eventually one of the stars constituting the constellation known as the Pleiades. The fourth was consecrated to Juno—the wife of Jupiter and the Queen of Heaven. The remaining six months of the Roman year, as established by Romulus, received their names from their numerical position, and were called *Quintilis*, *Sextilis*, September, October, November, and December. The additional months added by Numa, were called January, from *Janus*, who presided over the gates of heaven, and hence this month was then employed as the commencement of the year, and February from the word *februa*, signifying sacrifices for the spirits of the dead, which were offered during this month. We have preserved all these names, excepting *Quintilis* and *Sextilis*. As Julius Cæsar was born in the month *Quintilis*, its name was changed to that of *July*, and the name of *August* was given to the month *Sextilis*, in honor of Octavius *Augustus*, who became a consul during that month.

The Roman months were divided into three unequal periods, the first days of which were known as Calends, Nones and Ides. The Calends occurred on the first day of the month, the Nones on the 5th or 7th, and the Ides on the 13th or 15th. The days between these dates were characterized by their distance from the next festival, so that the days of the month after the Ides, would be called so many days *before* the Calends of the next month, those after the Calends so many days before the Nones, and those after the Nones so many before the Ides. The whole year consisted of but three hundred and fifty-five days, and in order to make the correction necessary on account of the inade-

quacy of this number of days to complete the period consumed in the revolution of the earth around the sun, an intercalary or supplementary month was added every two years.* This was called Mercedonius, and was inserted between the 23rd and 24th of February. This addition was made in order that the civil and the astronomical year might commence on the same day, at least every other year. The month Mercedonius some years was longer than others, in order to bring about this agreement, and the determination of its length was left to the High-priests. This power gave rise to great corruption, as it rendered its possessors able to shorten the period of office for their enemies and lengthen it for their friends. Confusion of the most annoying character invaded the chronologic reckoning of the Romans, until we are told that the autumnal festivals were celebrated in the spring and those of summer in the middle of winter.

This state of affairs attracted the attention of Julius Cæsar, and the result was the Julian reformation of the Calendar. It was accomplished with the aid of the Egyptian astronomer Sosigenes. The first object was to have an *intercalation* for the deficiency of the civil when compared with the astronomical year, which should be regular and free from alteration, and the next was to compensate for the fractional portion of the day which was appended to the three hundred and sixty-five days in order to make up the astronomical year. This latter object was accomplished by giving the civil year a definite number of days, omitting the fraction, and adding one day every four years to the number contained in the year in order to make up for the omission. The ordinary year would contain three hundred and sixty-five days, while every fourth year would have three hundred and sixty-six. The month Mercedonius was rejected and the days were apportioned out through the other months of the year, just as we have them at present in use over the whole globe, wherever civilized man dwells.

* Arago, Astronomie Populaire, iv., 665.

The intercalated day was added to February, which has every fourth year twenty-nine instead of twenty-eight days; and instead of counting it as a separate day, Cæsar adopted the plan of reckoning the 24th of the month twice, and as this day was called *sesto-calendas*, the repetition of it received the name *bissexto-calendas*, or simply *dies bissextus*, whence our own name, given to the year of three hundred and sixty-six days—*bissextile*. This Julian reformation took place forty-five years before the Christian Era. Owing to the imperfect manner that the bissextile day was employed, Augustus had the Calendar again corrected, thirty-six years after the date of the Julian reformation.

The whole Julian reformation was based upon the idea that the revolution of the earth around the sun was accomplished in three hundred and sixty-five days and six hours, whereas in fact it occupies but three hundred and sixty-five days, five hours, forty-eight minutes, forty-nine and seven tenth seconds. The Julian Calendar could be employed for a number of years without any great inconvenience, but as the mean length of its year differs from the astronomical year, a period must eventually arrive when there would be important differences between the two, and the seasons, according to the Calendar, would be very different from those which were occurring in fact. The council of Nice, in 325, adopted a plan in order to determine the festival of Easter, based upon the supposition that the vernal equinox would take place always on the 21st of March. But if the civil year is considered as being three hundred and sixty-five and one fourth days long, then, in consequence of the greater length of this period, the following error would arise, the equinox would fall a fraction of a day earlier than the Calendar would call for it. This difference, though small, would be increased with each year until it would at length be days instead of minutes. While the Calendar would lead us to expect it on the 21st of March, it would take place on the 20th, 19th, 18th, &c. As we shall find hereafter, Easter is regulated by the period of the Vernal Equinox, and these differences between

its real appearance and the time claimed for it in the Calendar, turned the attention of the Church to the necessity of a new reform of the latter. This reform was accomplished under the authority and direction of Pope Gregory XIII. in the year 1582. In the 1257 years that had elapsed since the Council of Nice, the Julian year had gained ten days on the astronomical year, and in 1582 the Vernal Equinox fell on the 11th of March instead of the 21st. The Council of Trent had recommended that some means be adopted to rectify this error. The Pope ordered that the day after the 4th of October, instead of being called the 5th, should be called the 15th. This reform was not considered as complete, however, until there should be some law established for preventing the same difficulty hereafter, and to make such a law an edict was promulgated that in every four hundred years there should be only ninety-seven bissextile years, instead of one hundred, which the Julian Calendar allowed. This would cut off three days from every four hundred years, giving a mean length to the year somewhat longer than the astronomical year, but so little differing that there would be a gain of one day only in four thousand years.

The rule for bissextile years is that every year divisible by four is entitled to the extra day appended to February, but that those years which terminate as 1500, 1600, 1700, 1800, &c., and which are really divisible by four, must be divisible first by one hundred and then by four, in order to be considered bissextile. In this way in the space of four hundred years, three years which would be bissextile according to the Julian Calender, will remain common, that is, will contain but three hundred and sixty-five days, and thus, in every one hundred bissextile years, according to the Julian Calendar, there is retained but ninety-seven, according to the Gregorian.

In the year 1700 the difference of dates between the two Calendars became equal to eleven days, and in 1800 to twelve days. The dates, according to the Julian reckoning, are now known as "the old style," and those accord-

ing to the Gregorian as the new style. The Julian system is still employed in Russia, and consequently there is a difference of twelve days between the dates of events as recorded by the Russians and by other nations.

There was great objection at first in Protestant countries to the adoption of the Gregorian changes in the Calendar. The great religious movements of the day which had resulted in a denial of papal supremacy by a portion of the Western Church, and a rejection of the customs and usages that were peculiar to the Church of Rome,—these were but little calculated to admit any agreement on the part of either Roman Catholic or Protestant on subjects religious or scientific. The sturdy Protestant declared that he would rather not agree with the sun than agree with the court of Rome, and therefore hesitated a long time about adopting the Gregorian changes. The decree of the Pope established the Gregorian Calendar on October 5–15, 1582. It was adopted in France, December 10–20, 1582; in the Catholic kingdoms of Germany in 1584, and the Protestant in February 19–March 1, 1600; in Poland in 1586; and in England September 3–14, 1752.

We have thus traced the history of our civil year, from its first establishment by Romulus, down to the changes which were instituted by Gregory XIII, under the advice of Lilio. It will be seen that centuries elapsed before science succeeded in defining not only the Calendar for any fixed year, but in obtaining the law of the variations of the Julian from the Astronomical year. It would be an error if we were to conclude that the civil year always commenced with the first of January. Arago gives five different periods which were or are employed by different modern nations as the beginning of the business year.

The birth day of Christ, December 25th, was celebrated as the beginning of the year in France during the reign of Charlemagne. In the same country, about the year 755, the first of March was selected as the commencement of the civil year; and during the 12th and 13th centuries, Easter day, notwithstanding it is moveable between the

22nd of March and the 25th of April, was used by some of the French. Up to 1752 in England, the year began with the festival of the Annunciation of the Virgin Mary, which was celebrated March 25th. During the year 1751, Parliament determined that 1752 should be considered as commencing with the first of January. In this way, 1751, really consisted of but nine months, and the ignorant populace are said to have vented their indignation upon the authors of the bill, pursuing Lord Chesterfield with the cry "give us back our three months." The first of January was retaken as the beginning of the year by the Germans in 1500. It is now adopted by nearly all nations excepting the Russians, where the commencement of the year corresponds with our thirteenth of January.

A few words on the subject of Eras and we shall take up the second portion of our subject. It is necessary to have some fixed point in the history of the past from which we can reckon the dates of events. In the years we have months, in these weeks, and in these again days, and thus we are enabled readily to fix the date of an event that may have happened during either of these periods. We want something of the kind when we have to fix the particular year of an event, and this is furnished by the Era.

The two Eras adopted by Christian nations have been the date of the creation of the world, and that of the birth of our Saviour. All events are referred to these two great facts. They constitute the Era of the world, and the Christian Era,—the first birth of matter with the creation of its master man, and the birth of the greatest man, of Him who united the natures of God and man, so that the sin and iniquity of the natural man might be sufficiently atoned for by His great sacrifice. The event which constituted the second Era was not only the greater of the two, but was the period in the history of the world towards which its antecedent events were looking for the restoration of Humanity to its original relations with the Deity, and from which those incidents, that have occurred since, have flown with more or less benefit to the race as they have been con-

trolled by a spirit recognizing the importance of *the* great event.

The Era of the world was proposed early in the history of the Christian Church, probably as early as the days of the Apostles. Chronologists have differed as to the number of years which intervened between the two Eras. Scaliger advanced the opinion, that this was 3950, Archbishop Usher that it was 4004, and Josephus 4163 years. The estimate of Usher is most generally adopted by English writers, and has been recognized by Bossuet and Rollin. The Era is called *Anno Mundi*, and abbreviated by the use of the initials A. M. The years are estimated from the beginning in regular order up to the Christian Era, which necessarily constitutes the beginning of the four thousand and fifth year of the world.

We find that the birth of Christ was not taken as the initial point of a new notation of years until the sixth century. The Christian Church had no Era different from those employed by the non-christian communities, and we may conclude, that the Era of the world was used, or the Olympie Era which dates 776 years B. C., or the Era of the foundation of Rome, known as *Anno Urbis Conditae*, which dated 753 years B. C., and was represented by the letters A. U. C. In the year 532 of our Era, a Roman monk, Dionysius Exiguus, proposed that the birth of the Saviour should be adopted as the point of time to which all events belonging to the Christian portion of History should be referred. His calculation placed this event on the 25th of December, in the 753rd year after the building of Rome, and accordingly the 754th year was called the first of the new Era,—taking, however, the first of January, seven days after the supposed Anniversary of the event, as the beginning of the year. Any event in this Era is said to have happened in the year of our Lord, and, designated by adding the letters A. D., (abbreviations of the words *Anno Domini*) to the number of years after the birth of Christ. In this way the nominal Christian world, whether recognizing fully the doctrines of the Christian religion, or pos-

sessing full belief in the idea of the divinity of Jesus Christ, are unconsciously, in their modes of reckoning time, bearing witness to His birth as the grandest incident found on the pages of the world's history. Men, whose undevout lips were never moved in prayer, or whose hardened hearts never beat in sympathy with a religious idea, thus inarticulately join in rendering homage, all involuntary though it be, to the central fact of the world's history,—the wondrous basis of the Christian's hope and the Christian's trust.

We have thus endeavored to present the nature of those divisions of the Civil Calendar, that are required by the exigencies of civil life, and also the principles, whether arbitrary or astronomically necessary, which have regulated the construction of such divisions. The day and year have been shown as regulated by astronomical laws. When these laws were but indifferently understood, the lengths of those divisions of time were not accurately fixed. After science had cleared up the dark places in Astronomy, she taught man how the civil year, by which he regulated his business affairs, could be made to agree with the astronomical year that the sun and the earth determined. Then, and not before, was the year accurately fixed. Hence we can understand all the mistakes and errors which abounded in every determination of the year up to the time of the Gregorian reformation in 1582.

Months being arbitrary divisions of the year depended entirely on the correctness of the determination of the latter for their value. But, weeks were established by especial command of the Almighty, and depended alone upon the preservation of the seventh day, however accurately or inaccurately its length might be determined by man, free from all labor or work.

The civil year is devoted to the worldly business of man. Saving alone fifty-two days—the Sundays—all the year is devoted to the search of such things as will contribute to his wants, comforts or luxuries. The requirements of the body are food and raiment, and these constitute all that are supplied by the labors of most men. The want of the mind

is knowledge, not only that it shall be able to aid the body in gaining victories over material objects, but that it can investigate the nature of substances immaterial and eternal. This want as imperatively clamors for man's attention during the civil year as the necessities of the body which perishes, and he who neglects its call, lowers himself to the condition of a mere animal. But yet a higher want is experienced by his soul, which can only be satisfied by food that Omnipotence has placed within its reach, and this want is the highest of all, so that whatever may be the occupations of the civil year, *it must not be neglected.* The business of man consists, therefore, in providing for the spiritual, mental and bodily wants of himself and those constituting his family. One day, out of the seven constituting the week, was reserved by God in commemoration of His sovereignty, and is specially to be devoted to the first of these three classes of wants, although it must also occupy a portion of time during the other six days. This day was originally fixed on the seventh day of the week, but, "it was changed, by the Lord of the Sabbath, from the *seventh* to the *first* day of the week, that it might be, till the end of time, a memorial of his resurrection from the dead; while, being still unaltered in its essential nature, it should continue to answer, also, as before, all the purpose of its original institution."*

From the earliest times the ancient Christians celebrated certain days of the year in commemoration of great events in the life of Christ. Whether these days were the proper anniversaries of such events or no, the idea involved in the celebration was still the same—that the creature should hold in continual remembrance the life of his Saviour. Afterwards, other days were added in commemoration of the births or martyrdoms of the Apostles, Evangelists, Confessors and Saints. These were multiplied until each day in the year was considered as consecrated to the recollection of some religious fact or personage. The *propriety*

* Nevin's Biblical Antiquities, II, 163. ¶

of such commemorations does not come within the province of this Article. It is taken for granted ; the reasons for it being based upon the conclusions which the Church Catholic has adopted. The number of the days which should be celebrated differs in the various branches of the Christian Church. Their enumeration constitutes the Ecclesiastical Calendar, and this is different in extent with each separate Church. The Roman Catholic Church has given the name of a Saint or Martyr to each day in the year, and has even assigned one to the intercalary day—the 29th of February. Protestant Churches have abridged this number and have adopted many or few of them in accordance with their own special theory on the subject. To consider the reasons for or against the retention of any of these days is, also, foreign from our present design. The Ecclesiastical Calendar, as recognized by the present Liturgy of the American branch of the German Reformed Church, and by the ancient usages of the mother Church in Germany and Switzerland, will now claim our attention, as something *admitted* to be right, and we will endeavor to show the laws which determine the various periods in this Calendar. Such a Calendar even existed with the Romans, who distinguished among the days of the year, such as were *dies juridici*, and *dies feriati*, that is judicial and non-judicial days. No man could be compelled to appear before the praetor on the *dies feriati*, and no business was transacted, unless of a certain character, which was specially named by Law. These days numbered, in the time of Marcus Antoninus, 150.*

Some religious observances, as Christmas and Epiphany, always occur on the same day of the month. There are others which occur on different days, and hence are known as *moveable* holydays. It will be proper, to begin with those that are fixed, and we select first of all *Christmas day*, or the Anniversary of the Nativity of Christ. “This has ever been kept with great solemnity, festivity and rejoicing.”†

* Neal’s Fasts and Feasts, 5 and 6.

† Calendar of Anglican Church, 152.

It was celebrated for about three hundred years by the Eastern Church on the 6th of January, though the 25th of December has been mostly devoted to its celebration. In the words of Saint Chrysostom,* it "is the most venerable, most astonishing of festivals, the fountain whence the other great festivals flowed, for had Christ not been born he would not have been baptized, which is the Epiphany ; he would not have been crucified, which is the Passover ; he would not have sent down the Spirit, which is Pentecost. But not only on that account, is this festival worthy of pre-eminence, but because what happened upon it is more astonishing than what happened on the others : for that Christ should die was a natural consequence of his having been born a man ; for though he did no sin, yet he had assumed a mortal body ; but that being God, he should be willing to become man and endure to humble himself to a degree which thought cannot follow, is most awful, most full of amazement.

Connected with the celebration of Christmas day, and immediately following it are three festival days recognized by the Church, as commemorating the martyrdom of St. Stephen, the beloved disciple St. John—the bosom friend of Christ, and the slaughter of the Jewish children by Herod's command ; these festivals always fall upon the twenty-sixth, twenty-seventh, and twenty-eighth days of December. They are celebrated immediately after Christmas, since each commemorated a certain form of martyrdom, and thus the idea was symbolized, to employ the words of the rubric for St. Stephen's day, "that the terrestrial birth of our Saviour is immediately followed by the death, that is the celestial birth of His martyrs." The reason for the order in which these days are placed is given by Wheatly, "That as there are three kinds of martyrdom, the first both in will and deed, which is the highest ; the second in will but not in deed ; the third in deed but not in will ; so the Church commemorates those martyrs in the same order : St. Stephen first, who suffered both

* Neal's Fasts and Feasts, 10.

in will and deed ; St. John the Evangelist next, who suffered martyrdom in will but not in deed ; the holy Innocents last, who suffered in deed but not in will."

The festival of the circumcision of Christ, is celebrated on the first day of the year, and hence is known as New Year's day. Its celebration does not date further back than the end of the eleventh century. Since this day was taken as the beginning of the year, at the time of the establishment of the Christian era by Dionysius Exiguus, it has become a day of great importance both in the Civil and Ecclesiastical Calendar. Some kind of celebration always takes place, either religious or social, and men of business use it as a convenient initial point for their calculations through the year.

The festival of the Epiphany, or the manifestation of Christ, is celebrated on the sixth of January. It is intended to commemorate three several manifestations of our Lord : 1st, the appearance of the Star in the East, which guided the wise men to the place "where the young child was," and thus enabled them "to worship Him"—this peculiar Epiphany is mentioned in the gospel for the day ; 2nd, the manifestation of the Trinity as shown at His baptism in the Jordan, by John the Baptist ; 3rd, that of His Divinity or Power as shown in the miracle of the water turned into wine at the marriage supper in Cana of Galilee.

These constitute all the fixed festivals that are provided for by the Liturgy, and our attention must now be directed to the more difficult subject of the moveable holydays. It will be proper in considering these to begin with the Ecclesiastical year, which does not commence with the first day of the Civil year, but some weeks before it. The commencement of the Ecclesiastical year is regulated by St. Andrew's day—November 30th,—and takes place on the nearest Sunday, before or after it, which is called the *First Sunday in Advent*. The whole season of Advent, which fills up the space between this Sunday and Christmas, is devoted to the commemoration of the coming of our Sa-

viour. It has been suggested that St. Andrew's day was selected by the Church to regulate the first Sunday in the year, because he was "the first that found the Messiah, and first brought others to Him," and hence it was right that he should be commemorated at the beginning of the Advent season. But since the first Sunday in Advent may come before the 30th of November, this idea would not always be represented in the arrangement of the Church year. We employ St. Andrew's day to determine the beginning of Advent, although there are no special lessons and collects assigned it in the Liturgy.

There are four Sundays in Advent, each having a special gospel, epistle and collect assigned it. After Christmas, to Epiphany, there may be one or two Sundays. The Reformed Liturgy, and the Book of Common Prayer, have a gospel, epistle and collect but for *one* of the Sundays—the latter ordering these to be used "*for every day after unto Epiphany.*"

The remainder of the moveable feasts in the Church year, as well as the celebration of Ash Wednesday and Good Friday, depend upon the date of Easter, or the Festival of the Resurrection of the Saviour from the tomb. The derivation of the word Easter from a Saxon word, *Oster*, which means to rise, shows that the character of the day is manifest in its etymology. Easter day was celebrated at the Paschal full moon, in consequence of the relation of the Resurrection to the Passover. Lardner tells us,* that "many of the early Christians held Easter to be the Jewish Passover continued as a Christian rite, and celebrated it on the day of the Passover, instead of the Sunday after. The Nicene Council put a stop to this notion and practice; and means were taken at the Reformation of the Calendar to prevent the Christian festival from falling actually upon the same day as that of the Jewish Passover."

In forming the law for the fixing of Easter, two things had to be kept especially in view; first, the fact of the oc-

* Lardner on The Almanac, 9.

currence of the Resurrection *about* the Vernal Equinox, and second, that it was *after* a full moon. With these facts the idea was quickly obtained that the festival should be celebrated on the Sunday which next succeeded the first full moon after the 21st of March, and in case "the full moon happens upon a Sunday, Easter day is the Sunday after." From this law we shall see that the earliest day on which Easter could fall would be the 22nd of March, and that this would only occur *when* the full moon appeared on the 21st of the month, the day of appearance being Saturday. The latest period for the festival is the 25th of April, which occurs when the full moon happens on the 20th of March. This moon is not then considered the Paschal moon, as it is *before* the Vernal Equinox, and the true Paschal full moon will really occur on the 18th of April. Should this day be Sunday, according to the general law, Easter will be the *next* Sunday, which would be the 25th. Easter day has fallen on the 22nd of March, in 1598, 1693, 1761, 1818, and will occur on that day in 2285. It has been celebrated on the 25th of April in 1666, 1734, and will be on that day in the years 1886, 1943, 2038 and 2190. Between these two periods,—a space of thirty-five days—Easter may happen in accordance with the conditions first named, and as it controls most of the moveable festivals, their position in the Church Calendar may vary within the same limits, i. e. thirty-five days.

It would be erroneous to conclude from what has been stated as the law for determining Easter, that the Astronomical moon has any thing to do with it at the present day. Many changes have taken place in the science of Astronomy, since Easter day was fixed by the Church. Ideas about the movements of the Sun and Moon, then prevalent, have been rejected. This rejection would necessarily affect, more or less, the determination of Easter, but in order to preserve the old law, an ecclesiastical, or conventional moon has been created, by the age of which Easter is regulated. Easter is in fact determined by finding the first Sunday that succeeds the 14th day of the first eccl-

siastical moon which occurs after the 21st of March, and if this 14th day occurs on Sunday, the Easter festival is celebrated on the next Sunday. In order to show that there is a difference between the Sundays which would be selected as Easter by the astronomical and the ecclesiastical moon, two cases from Arago may be cited. In 1798, Easter according to the astronomical moon should have been on April 1st, but, in fact being regulated by the hypothetic moon, it occurred on the 8th. In 1818, the day was determined astronomically as the 29th of March, but was celebrated in accordance with the ecclesiastical moon's indication on the 22nd. The reason why the determination is not made by the *actual* moon, consists simply in the fact that *its* position is obtained from astronomical tables, which are yearly being altered, as the science becomes more perfect. These tables are not constructed for many years in advance, and the Church would thus be dependent for the fixing of Easter on the appearance of the Civil Calendar. Whereas, according to the present system, tables are furnished us of the days, on which Easter will fall, for centuries to come.

The ecclesiastical moon is regulated by data known as "epacts" and "golden numbers." It is free from the contingent effects of modern astronomical discoveries. We shall endeavor to explain its peculiarities, drawing from Arago, Lardner and such other sources as are within our reach.

Meton remarked that nineteen years contain about two hundred and thirty-five lunar months, and that after the termination of this period, the same phases of the moon recurred on the same days of the month. Hence every nineteen years, festivals that were regulated by the phases of the moon, could be celebrated on the same days of the month. Such a period of time received the name of the Metonic Cycle. The Greeks were so delighted with this discovery, which would require them only to determine the dates of their feasts for nineteen years, as they would then have these for every subsequent period, that they had the

numbers inscribed on their monuments in letters of gold. Since that time, the numbers composing the cycle of Meton have been called golden numbers.

When we compare the actual length of nineteen astronomical years with two hundred and thirty-five average lunar months, a difference appears of two hours, four minutes, thirty-three seconds. If the nineteen years exactly contained two hundred and thirty-five lunar months, "the whole course of time would be resolved into a succession of periods, or *cycles*," and the same phases of the moon which were noticed in any year of one cycle, would occur in the corresponding year of another cycle at the same moment of time exactly. But as nineteen astronomical years fall short by two hours, four minutes, thirty-three seconds of the length of two hundred and thirty-five average lunar months,—the same phases of the moon would occur on the same day every nineteen years, but exactly two hours, four minutes, thirty-three seconds later.

But here another difficulty arises, the astronomical year is always three hundred and sixty-five days and nearly six hours in length, while the civil year is of unequal length. Every fourth year it contains three hundred and sixty-six days, and in the next three, only three hundred and sixty-five. This would also prevent a cycle of civil years always being of the same length, as it may sometimes contain five and sometimes only four leap years, making a difference of one day in length. "If four successive cycles of nineteen civil years be taken, three of them will exceed one astronomical year by something less than a quarter of a day, and the fourth will fall short of an astronomical year by something more than three-quarters of a day. The total length of the four successive cycles of nineteen civil years will be as nearly as possible equal to four cycles of nineteen astronomical years."* From these facts we learn that "the cycle of nineteen civil years oscillates at each side of the cycle of nineteen astronomical years." The

* Lardner on The Almanac, 13.

Ecclesiastical or true Paschal moon is supposed to move in the path of the true moon, but its periodical phases take place in accordance with the civil year, just as the phases of the true moon occur in accordance with the astronomical year. This fictitious moon will sometimes have its phases sooner or later than the real moon, though the extent of the differences will never be greater than that of the difference in length between the average and the real lunar month.

All time is divided into Metonic cycles of nineteen years, the first of which is supposed to commence with a day which is the last of the moon's age. The *golden number* for any year indicates its position in such a cycle, as for instance, if we say that this number for 1858 is 16, we mean it is the sixteenth year in the cycle which must have commenced with 1843. "The age of the ecclesiastical moon on the first day of the first year of the cycle being known, its age upon the first day of each succeeding year of the cycle may be determined. The number which expresses the age of the moon on the first day of any year of the cycle is called the *Epact* of that year." Now by calculation the following Epacts have been obtained as corresponding with the different golden numbers.

Golden Numbers.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Epacts.	0	11	22	3	14	25	6	17	28	9	20	1	12	23	4	15	26	7	18

Having thus obtained the age of the moon at the commencement of any year, we can easily calculate what full moon, or rather what fourteenth day of the lunar month occurs first after the 21st of March, and then from this the Easter day is readily obtained. Applying the rule to the present year the Epact for which is 15, we find the first ecclesiastical lunar period expired on the 15th of January; the second on the 13th of February, the third on the 14th of March, and the fourteenth day of the next moon falls on March 28th, which happens to be on Sunday, and hence the next Sunday, or April 4th, is Easter day.

Easter being determined in this way, there is no difficult-

ty in fixing the remainder of the moveable festivals. Lent consists of forty days before Easter, independent of Sundays. It begins with Ash Wednesday, which is exactly forty-six days before Easter. The name appropriated to this day was obtained from the ancient custom of placing ashes on the heads of the people after they had made confession of their sins. The day was preserved as a solemn fast. The period of Lent was instituted, as suggested by some, with a view to commemorate the fast of forty days and forty nights which Christ endured in the wilderness when he was tempted of the devil, or, as is more likely, in order to bring more especially before the minds of Christians the sufferings and death of the Saviour. The period was not begun as early as Ash Wednesday, until about A. D. 600. Before that time, it seems to have been of shorter duration.

The three Sundays before Ash Wednesday are counted backwards as the First, Second or Third Sunday *before* Lent, and are also known as Quinquagesima, Sexagesima or Septuagesima. The Sundays intervening, from Epiphany to Septuagesima, are numbered by their distance from the former festival, and they may vary from *one* to *six*.

During the Lenten period the Sundays, six in number, are reckoned from the first to the sixth in their order *from* Ash Wednesday. The *sixth* Sunday, however, is called Palm Sunday, as it commemorates Christ's triumphal entrance into Jerusalem when "a very great multitude spread their garments in the way; and others cut down branches from the trees and strewed them in the way." In the Roman Catholic Church, sprigs of evergreen are worn by the members on this day.

Palm Sunday, or the Sunday *before* Easter, is the beginning of the last week in Lent, which is known as Holy Week. This season was selected by the Christian Roman Emperors as the period for pardoning prisoners, "to imitate," according to St. Chrysostom, "as far as might be, the divine goodness which, at this time, freed mankind from the dominion of sin." It was considered as a week

of especial solemnity. The rubric in the Liturgy requires "that there should be Divine service every day, and that the entire gospel history of Christ's Passion and death should be read." The words of Chrysostom will give us an idea of the importance attached by the early Church to this period; —"in this week, the long war was brought to a close, death was quenched, the curse removed, the tyrannous empire of the devil overthrown, his goods plundered, God and man reconciled ; heaven becomes accessible, men and angels were joined together ; what had been dissevered was united ; the partition wall broken down, the barrier taken away ; the God of Peace made peace between the things above and the things on earth."

On the Friday in this week, known as Good Friday, the anniversary of the Crucifixion is celebrated, and the Church directs the minds of its members to the nature and magnitude of the Sacrifice which was then offered up for the benefit of mankind. This was the great fast day of the year with the early Church, and special canons of its various Councils were directed against any indulgence in feasting on Good Friday, "prohibiting such persons from participating on Easter in the sacrament."*

Saturday of this week is celebrated as the anniversary of the day in which Christ occupied the tomb, and is known as Easter Eve. The early Church continued the fast of Good Friday, "for all who were able to bear it, over the succeeding Saturday, while Christ continued in the tomb, till cock-crow on Easter morning : and during the whole of that night the people continued assembled in the churches, in the expectation,—an expectation apparently derived from the Jews,—that on that night the Messiah would appear to receive his kingdom."

Monday in Easter is celebrated by the German Reformed Church. The Gospel for the day describes the meeting of the risen Saviour, with two of the disciples, on the road to Emmaus.

* Fasts and Feasts, 321.

The Sundays after Easter are *five* in number, and reckoned by their distance *from* the great Festival. The first one of these was formerly called Dominica in Albis, on account of the fact that persons, who had been baptized on Easter-eve, which was the great baptismal day of the year, continued to wear their white robes during Easter week and on this Sunday. The fifth Sunday after Easter was formerly called Rogation Sunday. It and the two following days were known as Rogation days, as early as A. D. 474, when they were ordered as fasts, and were especially devoted to the consideration of the mode of asking God so that we may obtain our requests. This feature is preserved in the Gospel for the day, and the collect has especial reference to our doing good in the future under divine guidance.

The Thursday following the fifth Sunday after Easter, that is Rogation Sunday, is called Ascension day. This is always forty days after Easter, and it is celebrated at this distance from the great festival, in commemoration of the days, which Christ passed on earth after His resurrection, which were forty in number.

The Sunday immediately following Ascension day is simply known as *the Sunday after Ascension day*. It is followed by Whit Sunday, called also the Feast of Pentecost, from the fact that it is exactly fifty days from Easter. This day is celebrated in commemoration of the descent of the Holy Spirit on the Apostles, after the Resurrection of the Saviour. The next day, or *Whit Monday*, is retained as a Holyday by the Reformed Church, to commemorate the gift of the Spirit to the Gentiles, under the preaching of St. Peter.

Sunday immediately following Whit Sunday is known as Trinity Sunday. The mystery of the Trinity is especially held in remembrance on this day. The Ambrosian hymn is required in the service, because it offers up especial thanks to the three personages of the Trinity, and has always been recognized as the highest form of adoration which an uninspired writer has composed. The festival

prayers for the day dwell particularly upon the attributes peculiar to the different personages of the Godhead. In the English Church the Athanasian Creed is appointed to be said on this day.

The Sundays following Trinity, which vary in number from *twenty-two* to *twenty-seven*, are named as *after* Trinity, and they fill up the remainder of the Ecclesiastical year.

It will be observed that Easter regulates nearly the whole of the Church-year, determining when each of the moveable feasts shall be held. In order to recapitulate what we have said, we extract, as a sort of resume of the whole subject, the following by Prof. De Morgan :* “In the English nomenclature Easter Sunday has always the *six* Sundays in Lent immediately preceding, and the *five* Sundays after Easter immediately following. Of these, the nearest to Easter before and after, are *Palm* Sunday and *Lov* Sunday (*Dominica in albis*) ; the farthest before and after, are *Quadragesima* (first in Lent), and *Rogation* Sunday (fifth after Easter). Preceding all these are, in reverse order, *Quinquagesima*, *Sexagesima*, *Septuagesima*; and following them in direct order, are the Sunday after *Ascension*, *Whit* Sunday and *Trinity* Sunday. So that Easter Sunday, as it takes its course through the Almanac, draws after it, as it were, *nine* Sundays, and pushes eight before it, all at fixed denominations. Looking farther back, every Sunday preceding Septuagesima, but not preceding the fixed day of Epiphany (Jan. 6th), is named as *of* Epiphany or *after* Epiphany: the least number of these being *one*, the greatest number *six*.”

In addition to the days which are mentioned in this article, as the festival days suggested in the new Liturgy of the Reformed Church in America, other days are celebrated by the mother Church, in her German home, in commemoration of the Apostles or some incidents of special importance in the history of the Church. With the view of showing that such days were *once* recognized in this coun-

* Lardner on the Almanac, 19.

try by the Reformed Church, we may mention that, in an old Hymn book, the fourth edition of which was published by Ernst Ludwig Baisch in Philadelphia, (1774), purporting to be prepared for the use of the Reformed Church in Hesse, Hanau, the Palatinate and Pennsylvania, we find associated with the Heidelberg Catechism, and with forms of prayer for morning and evening private worship, a full series of gospel and epistles with collects for all the Sundays in the year, the other festivals recognized in the present Liturgy, and for *other* occasions. The latter are for the "*Sunday after New Year*," Tuesday after Easter, Tuesday after Whit Sunday, the day named St. Andrew's, St. Thomas, the conversion of St. Paul, the purification of the Virgin, St. Matthew, the Annunciation, St. Philip and St. James the less, St. John the Baptist, St. Peter and St. Paul, the Visitation of the Virgin to Elizabeth, St. James the Great, St. Bartholomew, St. Mathias, St. Michael the Archangel, St. Simon and St. Jude. This will show that the Liturgical movement involving as it does, to a certain extent, the celebration of these days of the old Church year, is not a novelty introduced by restless men into the service of religion, but is the result of an ardent yearning after the customs of our fathers, a warm desire for a form of worship which unites people and clergy in their church services. And we need not seek after this latter out of the limits of our mother Church, whose past history is filled with endearing recollections of our fathers. Their blood, in many cases, was shed in the establishment of its doctrines and principles when persecution opposed them with all its vilest terrors. Let not their sons be drawn irrevocably from the old land marks, and carried away out into the sea of non-liturgical agitation, where their poor barks will, like many others in the same position now, be tossed about by every wind of doctrine, having no sure reliance upon compass or star or any other guidance in the midst of the storm. The necessities of the devout soul, the idea of worship itself, respect for the early fathers of the Church, the duty of handing down doctrines pure and undefiled,—

all these constitute an argument all powerful in favor of Liturgical worship with the son of the German Reformed Church, and by implication also they invoke his attention to the Church year. To this latter, as the nobler Calendar of the two we have considered, the purest thoughts and tenderest feelings of the soul cling as, next to God's own Sabbath, requiring the attention and reverence of the devout. In this view, the Ecclesiastical Calendar is a great boon from the Church to her members.

“ As prisoners notch their tally-stick,
And wait the far-off day,
So marks SHE days, and months and years,
To ponder and to pray ;
And year by year beginning new
Her faithful task sublime,
How lovingly she meteth out,
Each portion in its time.”

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A D D E N D A .

RULE FOR DETERMINING EASTER SUNDAY.

(*Delambre's Astronomie*, [1814] III, 712.)

1. Divide the number of the year by 19, & call the remainder *a*.
2. " " " by 4, " " " *b*.
3. " " " by 7, " " " *c*.
4. " $(19a -|- M)$ by ~~30~~ *d*.
5. " $(2b -|- 4c -|- 6d -|- N)$ by 7, " " " *e*.
6. Make *M*=15, and *N*=6 for the Julian Calendar.

In the Gregorian Calendar, *M* and *N* will have the following values :

	M	N
From 1582 to 1699	22	3
1700 to 1799	23	3
1800 to 1899	23	4
1900 to 1999	24	5
2000 to 2099	24	5
2100 to 2199	24	6
2200 to 2299	25	0
2300 to 2399	26	1
2400 to 2499	25	1

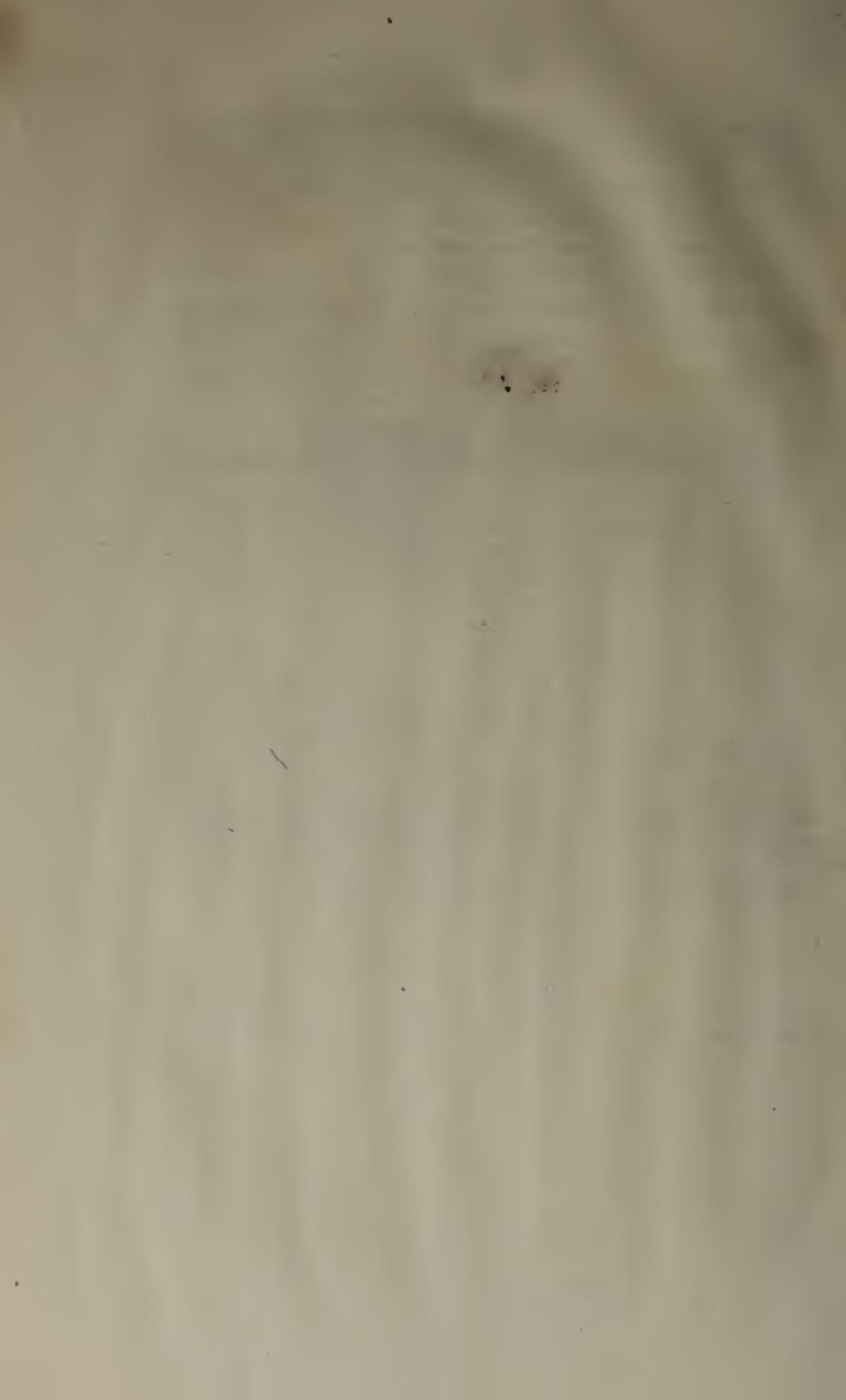
7. Easter day will either be
 $(22 -|- d -|- e)$ of March, or
 $(d -|- e -|- 9)$ of April.

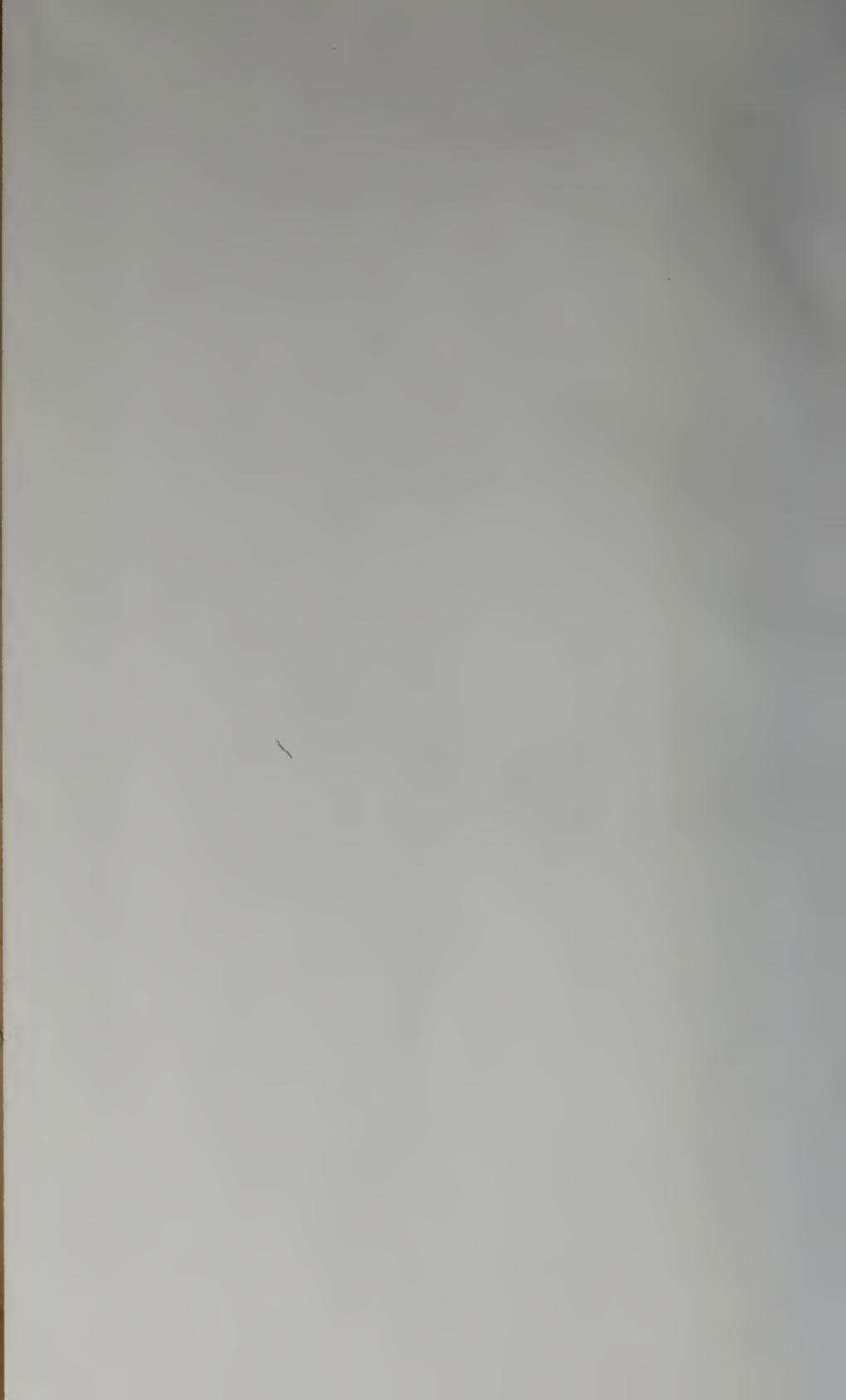
This rule is absolute for the Julian Calendar. In calculations for the Gregorian Calendar, if a number is given over 24th of April, seven days must be subtracted.

Applying these rules to the present year, 1858,

$$\begin{aligned} a &= 15 \\ b &= 2 \\ c &= 3 \\ d &= 8 \\ e &= 5 \end{aligned}$$

Hence Easter day is $(d -|- e -|- 9) = (8 -|- 5 -|- 9) = 4$ th of April.









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